

[0017] Examples disclosed herein generate a billboard interface that is presented via a vehicle display to facilitate a user (e.g., a driver, a passenger) of a vehicle to obtain information related to a nearby billboard advertisement. The billboard interface includes a hyperlink of a segment of the billboard advertisement that initiates an event corresponding to the segment of the billboard advertisement to enable the user to obtain additional information associated with the billboard advertisement before, during, and/or after the vehicle passes the billboard advertisement. For example, the user may select a segment of the billboard interface that includes a phone number included in the billboard advertisement. Upon selecting the segment with the phone number, the vehicle and/or a mobile device of the user calls the phone number, for example, to enable the user to place an order with a business associated with the billboard advertisement.

[0018] Example systems disclosed herein include a mobile device and a vehicle of a user (e.g., a driver, a passenger). The user and the mobile device of the user are located within an interior of the vehicle as the vehicle travels along a road.

[0019] The mobile device includes a camera that obtains an image of a billboard located near a road along which the vehicle is traveling. The mobile device is positioned within the vehicle so that the camera is able to obtain the image of the billboard as the vehicle approaches the billboard. Further, the mobile device includes a billboard segmenter and a communication module (e.g., a first communication module). The billboard segmenter identifies a segment of the image, determines an event associated with the segments, and generates a billboard interface to include a hyperlink of the segment that initiates the event. The communication module of the mobile device sends the billboard interface to the vehicle to be presented to the user. In some examples, the billboard segmenter includes an image recognition system that identifies the segment of the image of the billboard via a deep neural network. Also, in some examples, the mobile device includes another communication module (e.g., a second communication module) in communication with a database that includes segment entries and corresponding event entries. In such examples, the billboard segmenter determines the event associated with the segment by matching the segment of the image of the billboard to one of the segment entries of the database and identifies the corresponding one of the event entries of the database.

[0020] The vehicle includes a communication module (e.g., a third communication module) that communicatively couples to and receives the billboard interface from the communication module (e.g., the first communication module) of the mobile device. The vehicle also includes a display to present the billboard interface to the user. Further, the vehicle includes a billboard linker that detects when the user selects the segment of the billboard interface and subsequently initiates the corresponding event via the hyperlink. In some examples, the display is a touch screen. In such examples, the billboard linker detects a selection of the segment of the billboard interface when the user presses a portion of the touch screen corresponding to the segment of the billboard interface. Additionally, or alternatively, the vehicle includes a microphone to receive audible instructions from the user to select the segment of the billboard interface presented via the display.

[0021] In the examples disclosed herein, the segment of the billboard interface that is presented via the display of the

vehicle include a logo, a product, a phone number, an address, directions and/or any other portion of the advertisement of the billboard. In some examples, the segment of the billboard interface includes an address of a business associated with the advertisement of the billboard. In some such examples, the display presents visual directions to the address upon the user selecting the segment of the billboard interface. Additionally, or alternatively, the vehicle includes speakers that present audible instructions to the address upon the user selecting the segment. In other examples, the event initiated by the selection of the segment of the billboard interface is a phone call to a phone number of the business associated with the advertisement of the billboard.

[0022] In some examples, the billboard segmenter of the mobile device identifies a first segment of the image and a second segment different than the first image. In such examples, the billboard segmenter determines a first event associated with the first segment and a second event that is associated with the second segment and different than the first event. Further, in such examples, the billboard generates the billboard interface to include a first hyperlink of the first segment that initiates the first event and a second hyperlink of the second segment that initiates the second event. For example, the first event is a phone call to a phone number of a business associated with the advertisement of the billboard, and the second event is a presentation of directions to an address of the business.

[0023] Turning to the figures, FIG. 1 illustrates an example vehicle **100** and an example mobile device **102** (e.g., a smart phone, a dashboard camera, a tablet, a smart watch, a wearable) of a user **104** (e.g., a driver, a passenger) in accordance with the teachings herein. The vehicle **100** may be a standard gasoline powered vehicle, a hybrid vehicle, an electric vehicle, a fuel cell vehicle, and/or any other mobility implementation type of vehicle. The vehicle **100** includes parts related to mobility, such as a powertrain with an engine, a transmission, a suspension, a driveshaft, and/or wheels, etc. The vehicle **100** may be non-autonomous, semi-autonomous (e.g., some routine motive functions controlled by the vehicle **100**), or autonomous (e.g., motive functions are controlled by the vehicle **100** without direct driver input). As illustrated in FIG. 1, the vehicle **100** is traveling along a road **106** in a direction toward a billboard **108** that is positioned adjacent to the road **106**. The billboard **108** includes an advertisement **110** and/or other information that is intended to be viewed by the user **104** as the vehicle **100** approaches and/or passes the billboard **108**. In the illustrated example, the vehicle **100** includes an infotainment head unit **112**, a communication module **114**, a global positioning sensor (GPS) receiver **116**, and a camera **118**.

[0024] The infotainment head unit **112** provides an interface between the vehicle **100** and the user **104**. The infotainment head unit **112** includes digital and/or analog interfaces (e.g., input devices and output devices) to receive input from and display information for the user(s). The input devices include, for example, a control knob, an instrument panel, a digital camera for image capture and/or visual command recognition, a touch screen, an audio input device (e.g., cabin microphone), buttons, or a touchpad. The output devices may include instrument cluster outputs (e.g., dials, lighting devices), actuators, a heads-up display, a center console display (e.g., a liquid crystal display (LCD), an organic light emitting diode (OLED) display, a flat panel display, a solid state display, etc.), and/or speakers. In the